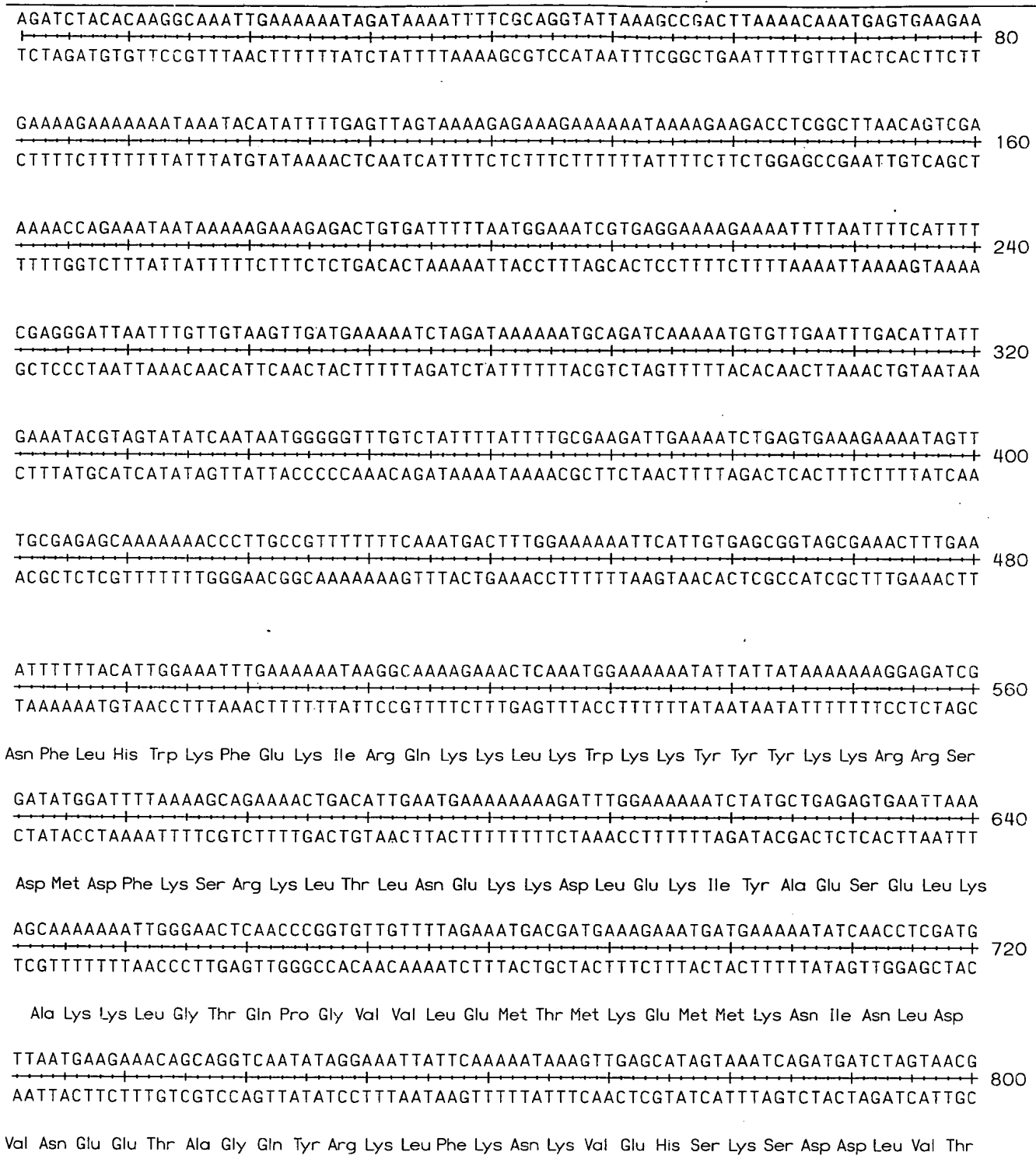
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Asn Phe Leu His Trp Lys Phe Glu Lys Ile Arg Gln Lys Lys Leu Lys Trp Lys Lys Tyr Tyr Tyr Lys Lys Arg Arg Ser

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CTATACCTAAAATTTTCGTCTTTTGACTGTAACTTACTTTTTTTTCTAAACCTTTTTTAGATACGACTCTCACTTAATTT 640

Asp Met Asp Phe Lys Ser Arg Lys Leu Thr Leu Asn Glu Lys Lys Asp Leu Glu Lys Ile Tyr Ala Glu Ser Glu Leu Lys

AGCAAAAAAATTGGGAACTCAACCCGGTGTTGTTTTAGAAATGACGATGAAAGAAATGATGAAAAATATCAACCTCGATG
TCGTTTTTTTAACCCTTGAGTTGGGCCACAACAAAATCTTTACTGCTACTTTCTTTACTACTTTTTATAGTTGGAGCTAC 720

Ala Lys Lys Leu Gly Thr Gln Pro Gly Val Val Leu Glu Met Thr Met Lys Glu Met Met Lys Asn Ile Asn Leu Asp

TTAATGAAGAAACAGCAGGTCAATATAGGAAATTATTCAAAAATAAAGTTGAGCATAGTAAATCAGATGATCTAGTAACG
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Val Asn Glu Glu Thr Ala Gly Gln Tyr Arg Lys Leu Phe Lys Asn Lys Val Glu His Ser Lys Ser Asp Asp Leu Val Thr

FIGURE 1A

```
GGACTATTAGAGTGTGGAACTCGAAATAGTTTTGATAAAACAAGAAGTGCCTTTCGTTTTTGTATTTGTGAGAGAATTCA
+---------+---------+---------+---------+---------+---------+---------+---------+ 880
CCTGATAATCTCACACCTTGAGCTTTATCAAAACTATTTTGTTCTTCACGGAAAGCAAAAACATAAACACTCTCTTAAGT

 Gly Leu Leu Glu Cys Gly Thr Arg Asn Ser Phe Asp Lys Thr Arg Ser Ala Phe Arg Phe Cys Ile Cys Glu Arg Ile Gln

GCAACTGAGAAAAGAAGCTGATAATGCAAGAAGAGTAAAAGATTTCGATACAATGAAAGCAAAAACTAAAGAGGCTTTTG
+---------+---------+---------+---------+---------+---------+---------+---------+ 960
CGTTGACTCTTTTCTTCGACTATTACGTTCTTCTCATTTTCTAAAGCTATGTTACTTTCGTTTTTGATTTCTCCGAAAAC

  Gln Leu Arg Lys Glu Ala Asp Asn Ala Arg Arg Val Lys Asp Phe Asp Thr Met Lys Ala Lys Thr Lys Glu Ala Phe

AATTGAGTTTTGTTTTTGATAAGGATTTTTTGAGTGAAAATAGAATTCAATGGAATGATATTTCTCACAACAAAAAAGAC
+---------+---------+---------+---------+---------+---------+---------+---------+ 1040
TTAACTCAAAACAAAAACTATTCCTAAAAAACTCACTTTTATCTTAAGTTACCTTACTATAAAGAGTGTTGTTTTTTCTG

Glu Leu Ser Phe Val Phe Asp Lys Asp Phe Leu Ser Glu Asn Arg Ile Gln Trp Asn Asp Ile Ser His Asn Lys Lys Asp

TCTGCAAGTAAAAGAAAAACAATGAAAGAAGCGGACACAATGGATGATATTTTTAAGAGGCTAAAAAATAATAAATCTAC
+---------+---------+---------+---------+---------+---------+---------+---------+ 1120
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 Ser Ala Ser Lys Arg Lys Thr Met Lys Glu Ala Asp Thr Met Asp Asp Ile Phe Lys Arg Leu Lys Asn Asn Lys Ser Thr

ATATGATCGTTATGCTGGATTCCTTTCTATTTGTTCGATTACAGGTTGCAGACCAGCAGAAGTTTTAAAGGGTATAGAGA
+---------+---------+---------+---------+---------+---------+---------+---------+ 1200
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  Tyr Asp Arg Tyr Ala Gly Phe Leu Ser Ile Cys Ser Ile Thr Gly Cys Arg Pro Ala Glu Val Leu Lys Gly Ile Glu

TAGTAAGAAACAGATATGAGGATGGTATATCTTTTAAAATACTTGGTGCAAAGGTTGGAAATGACAGAGGGCAAAGCGAA
+---------+---------+---------+---------+---------+---------+---------+---------+ 1280
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Ile Val Arg Asn Arg Tyr Glu Asp Gly Ile Ser Phe Lys Ile Leu Gly Ala Lys Val Gly Asn Asp Arg Gly Gln Ser Glu

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+---------+---------+---------+---------+---------+---------+---------+---------+ 1360
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 Arg Thr Leu His Phe Asp Leu Ser Lys Tyr His Asp Asn Glu Gln Met Asn Tyr Ile Leu Ser Gln Leu Lys Asp Asn Lys

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+---------+---------+---------+---------+---------+---------+---------+---------+ 1440
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  Phe Phe Tyr Lys Pro Asp Gly Lys Leu Tyr Asn Ser Leu Arg Gln Tyr Leu Tyr Ile Gln His Arg Thr Phe Ser Leu

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+---------+---------+---------+---------+---------+---------+---------+---------+ 1520
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Tyr Thr Leu Arg His Arg Val Ala Ser Asp Leu Lys Ala Ser Gly Ala Asp Asp Phe Thr Ile Ala Ala ??? Leu Gly His
```

FIGURE 1B

AGAGTGACTCAAAGCCAGGAGTTACTACGGCTATGCTCGTTCGTCGNAAGGTGGTATCGCTGTAACTGGTGTTGAGTGCT

1600

TCTCACTGAGTTTCGGTCCTCAATGATGCCGATACGAGCAAGCAGCNTTCCACCATAGCGACATTGACCACAACTCACGA

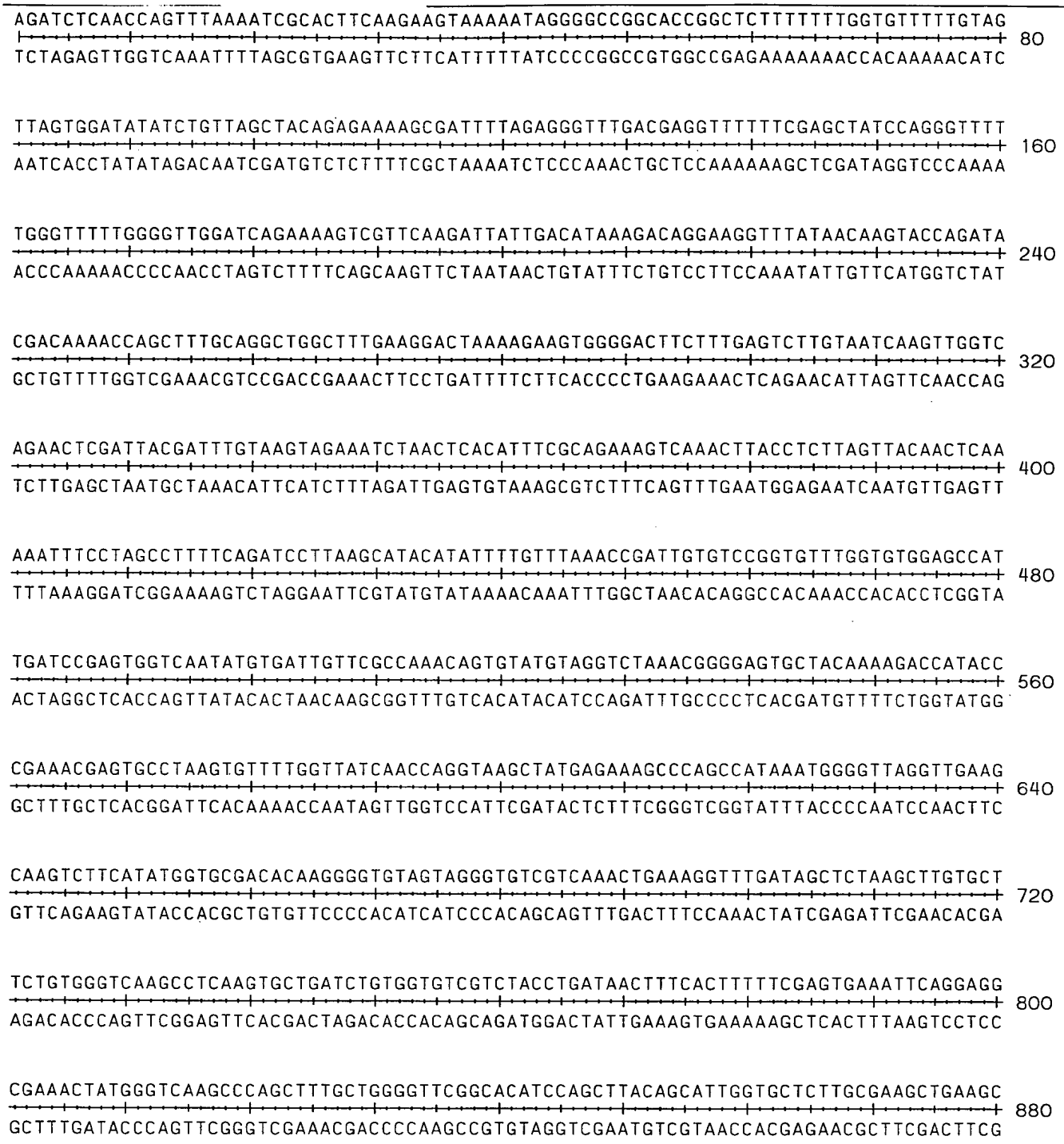
Arg Val Thr Gln Ser Gln Glu Leu Leu Arg Leu Cys Ser Phe Val ??? Arg Trp Tyr Arg Cys Asn Trp Cys

CTGATGTTGTGAAAGCAAACAAGAGTCAGTTNGCTGTATCAAGGACTCCGAGCCAGATCT

1660

GACTACAACACTTTCGTTTGTTCTCAGTCAANCGACATAGTTCCTGAGGCTCGGTCTAGA

FIGURE 1C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240
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320
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400
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480
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560
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GCTTTGCTCACGGATTCACAAAACCAATAGTTGGTCCATTCGATACTCTTTCGGGTCGGTATTTACCCCAATCCAACTTC
640
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GTTCAGAAGTATACCACGCTGTGTTCCCCACATCATCCCACAGCAGTTTGACTTTCCAAACTATCGAGATTCGAACACGA
720
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800
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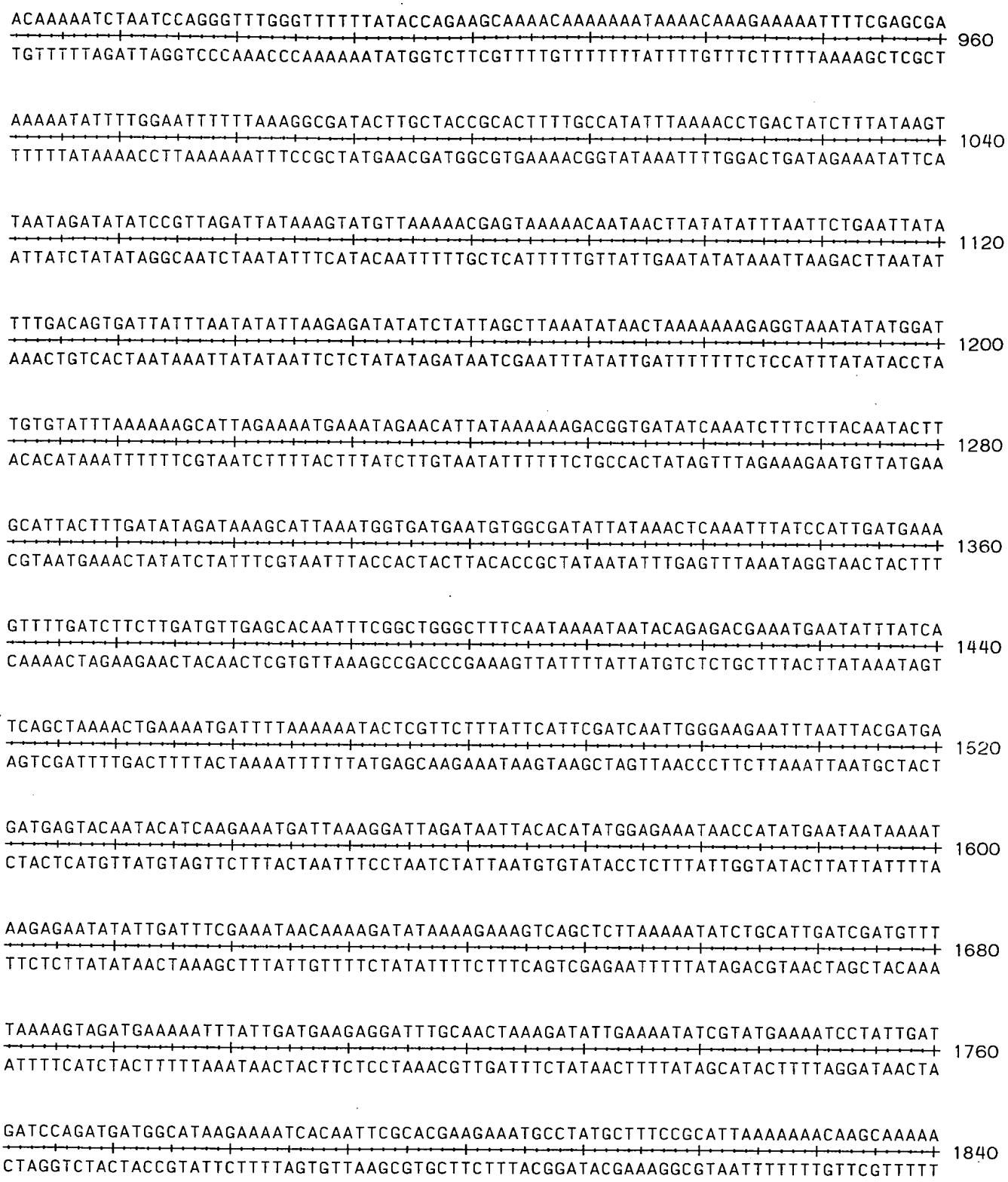
880

FIGURE 1D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1120
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1200
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1360
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1440
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1520
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1600
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1680
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1760
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FIGURE 1E

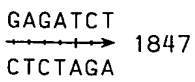

FIGURE 1F

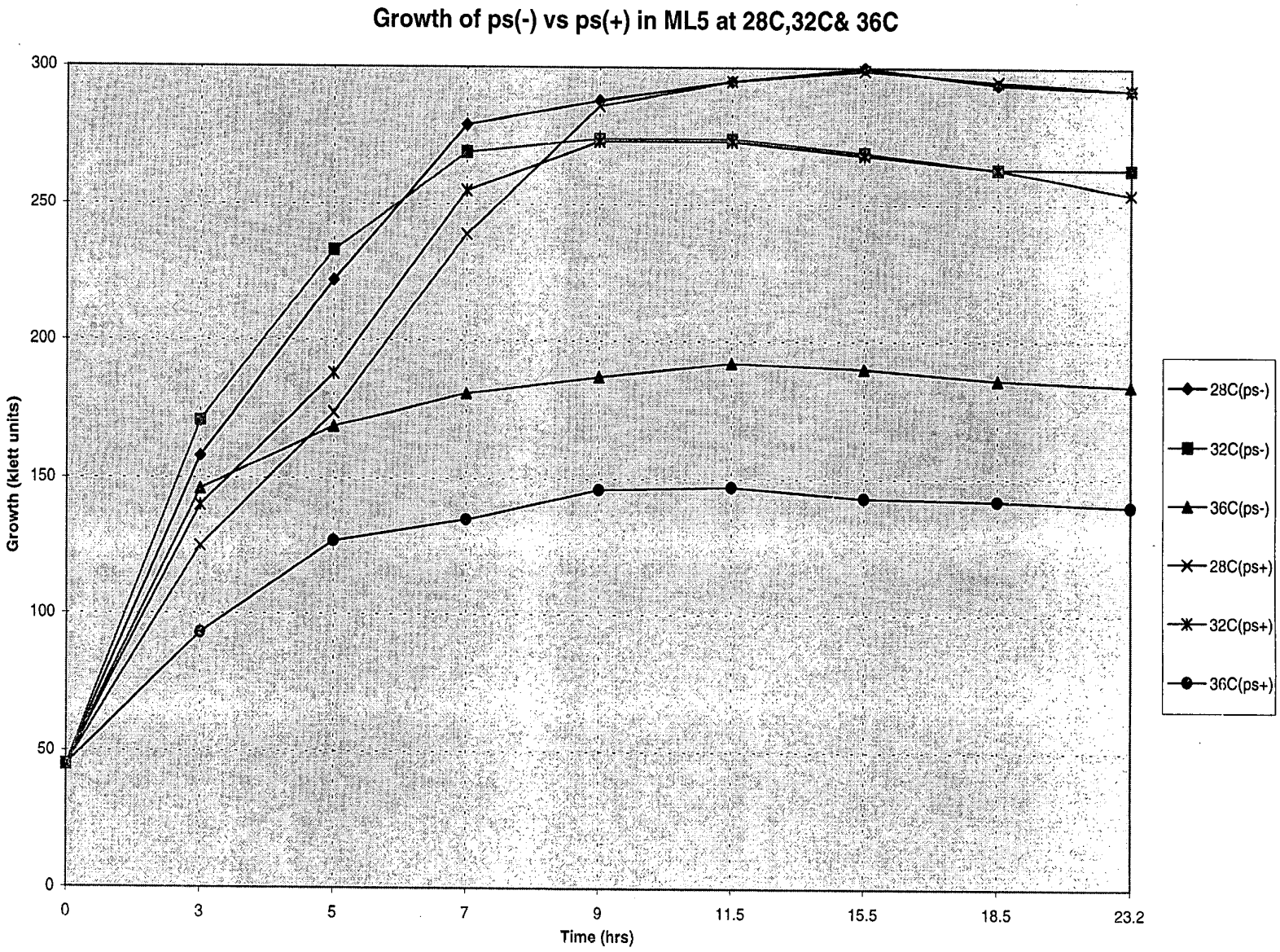
Growth of ps(-) vs ps(+) in ML5 at 28C,32C& 36C
Growth (klett units)
300
250
200
150
100
50
0
0
3
5
7
9
11.5
15.5
18.5
23.2
Time (hrs)
28C(ps-)
32C(ps-)
36C(ps-)
28C(ps+)
32C(ps+)
36C(ps+)

FIGURE 2

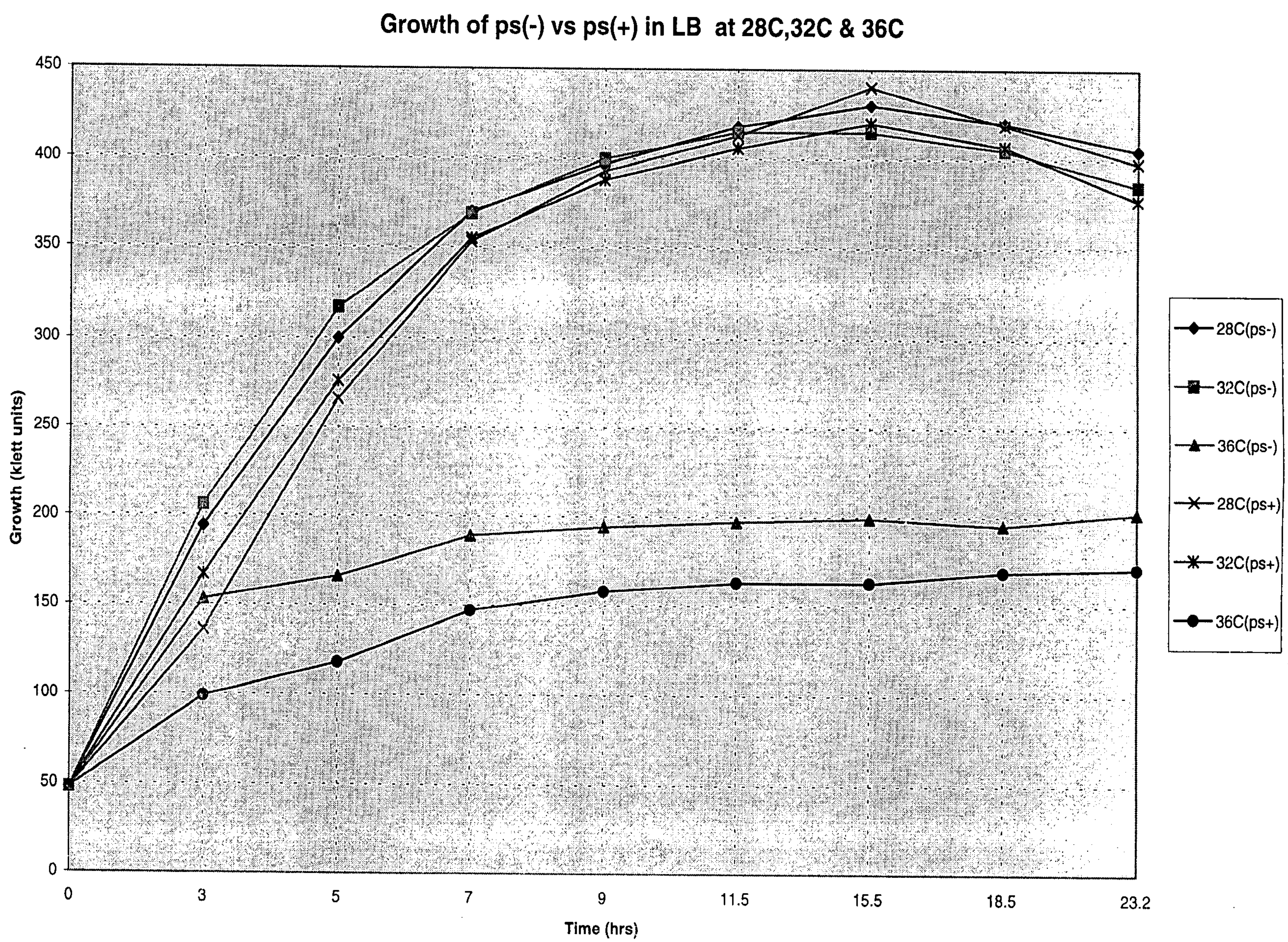
Growth of ps(-) vs ps(+) in LB at 28C,32C & 36C
Growth (klett units)
450
400
350
300
250
200
150
100
50
0
0
3
5
7
9
11.5
15.5
18.5
23.2
Time (hrs)
28C(ps-)
32C(ps-)
36C(ps-)
28C(ps+)
32C(ps+)
36C(ps+)

FIGURE 3